

REMARKSDrawings

The Examiner had objected to drawing submitted December 18, 2003 as having hand-written portion and hence of insufficient quality. Applicant points out that the hand-written version was the marked-up copy in red, as required under 37 CFR 1.121(d). The marked-up version was accompanied by a new clean version of amended Fig. 1. For the convenience of processing, Applicant hereby re-submits the clean version of amended Fig. 1.

Objection to Claims 9, 13

10       The Examiner has noted that claims 9 and 13 contain allowable subject matter, but they are objected to as being dependent upon a rejected base claims. Applicant would like to point out that since claims 10-11 are dependent upon claim 9, they are allowable as well.

Rejection 35 U.S.C. 11215      Summary of Rejection

The Examiner has rejected Claims 1, 5, 14, and 15 under 35 U.S.C. 112 first paragraph, as failing to comply with the written description requirement. In particular the Examiner alleged that with regard to claims 1 and 5, the specification does not show:

- (a) “the tile format table, separate from data storage of said tiles, containing a status entry 20 for each of said plurality of tiles” and
- (b) “setting said status entry for each of said tiles in said tile format table, wherein said status entry indicates the memory size of each of said tiles after compression, with a full size indicating a non-compressed tile.”

The Examiner also alleged that with regard to claims 14 and 15, the specification does not show “status entry further indicates the validity of data in said tile.”

Applicant's Reply

5 With regard to claims 1 and 5, in reply Applicant points out the following reference locations where the specification supports the limitations cited above.

With regard to limitation (a), applicant has amended claim 1 to remove the limitation.

With regard to limitation (b), support can be found at least on page 9, line 19 - page 10, line 2 (last paragraph of page 9). In particular, the specification states:

10 “Correspondingly, the TFT contains a value 1 to 4 for each tile describing the number of words containing the compressed tile (1 to 3 words) or the uncompressed pixel tile (4 words if the tile cannot be compressed into fewer than 4 words).” Hence the number 1 to 4 is a “status entry” describing the “memory size of the tiles after compression” with a 4 indicating a “full size indicating a non-compressed-tile.” Furthermore, support can also be found on page 8, line 11-  
15 15, which states:

“To avoid these problems, the present invention includes a means of tracking the compression status of each tile via a Tile Format Table (TFT). The TFT includes an entry for each tile in the table. When the tile is written to memory, its corresponding TFT entry is updated to indicate whether it is compressed or not.”

20 With regard to claims 14 and 15, in reply Applicant points out the following reference locations where the specification provides support for “status entry further indicates the validity of data in said tile.” Support can be found at least on page 10, line 4-13 (first paragraph of page 10). In particular line 7-8 states: “In one embodiment, the TFT contains an additional status indicator which can be used to identify a tile as invalid.”

As shown above, the specification does provide support in the pending claims. As such, Applicant asserts that rejection of these claims under 35 USC 112, first paragraph has been overcome.

5    **Comments Regarding Amendments to the Claims**

Claims 1 and 5 have been amended. Support for the new limitations of:  
“retrieving said tiles from said memory whereby said status entry indicating memory size is used to determine whether said tiles need to be decompressed at time of retrieval” in claims 1 and 5 can be found throughout the specification, and in particular in Fig. 2 and Fig. 3, page 9, lines 5-10 15, page 10, lines 4-6, 15-21.

**Rejection - 35 U.S.C. 103(a)**

The Examiner has rejected claims 1-11 under 35 U.S.C. 103(e) as being unpatentable over the combination of Bhargava (5,471,248) and Jung (5,805,226). In reply, Applicant  
15 submits that in order to show *prima facie* obviousness, it is required “that (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) there must be a reasonable expectation of success; and (3) the prior art references teach or suggest all the claim limitations” (MPEP 2143).

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**Claims 1-4**

In rejecting claim 1, the examiner proposed it was obvious to combine the teaching of Bhargava and Jung to make the present invention. Applicant respectfully disagrees. With

respect to the amended claim 1, Bhargava and Jung, either alone or in any combination do not teach the following limitations:

- (a) defining a plurality of tiles of data;
- (b) defining a tile format table containing a status entry for each of said plurality of tiles;
- 5 (c) compressing each of said tiles, wherein each tile is compressed if it is determined that compression results in a smaller tile size;
- (d) setting said status entry for each of said tiles in said tile format table, wherein said status entry indicates the memory size of each of said tiles after compression, with a full size indicating a non-compressed tile;
- 10 (e) storing said tiles in a memory.
- (f) retrieving said tiles from said memory whereby said status entry indicating memory size is used to determine whether said tiles need to be decompressed at time of retrieval.

Applicant submits that Bhargava at least does not teach limitations (d) and (f). The reasons are set forth as follow:

- 15 1. The Examiner stated that the Bhargava reference as a whole renders the claim obvious. In particular, the Examiner pointed out references that indicated "the compressed information and image change information" and stated that "it would have been obvious for one skilled in the art that compressed information and image change information would have memory size/memory status/compression information of the compressed image." However, with regard to limitation
- 20 (d) of claim 1, the limitation is clearly directed to indicating the "memory size of each of the said tile," not an image. Applicant points out that cited reference of col. 2, lines 50-53 states that "since the sub-tiles represent image change, the invention achieves its principal objective by compressing the image change information into the sub-tile." Applicant submits that terms of "image change" and "tiles" need to be interpreted in a manner consistent with the teaching of the

Bhargava specification. If one looks at the overall nature of Bhargava invention and the problem it attempts to solve, it becomes evident that compressing image change information is not the same as storing memory size information on tiles. Taken as a whole, Bhargava is directed to solving a problem that does not require the storage of compression information of tiles.

- 5      Bhargava teaches encoding image change information that varies from frame to frame into tiles.

Bhargava's Summary of Invention states:

"The invention is based upon the inventors' critical observation that information regarding change in an image represented by a succession of scanned two-dimensional pixel value arrays can be efficiently compressed by encoding only those rectangular regions in which change in image information has occurred." (col. 2, 17-23)

- Bhargava is concerned with encoding image change information in tiles. Unlike the claimed invention, Bhargava does not achieve compression by taking an existing tile and compressing it. Instead it takes an image frame, notes the change in the image relative to the last frame, and encodes those areas where changes occur by using tiles. As such, Bhargava needs not to know whether a tile has been compressed or not because tiles are not the objects of compression. What Bhargava does keep track of, however, is the boundary and location of the tiles (hence the use of data structures as shown FIG. 13A and 14). That is how it can tell where image changes have occurred from frame to frame and where such changes are encapsulated in tiles to achieve compression. Thus this is why there is no teaching of storing memory size information of tiles in Bhargava. In contrast, limitation (d) specifically states that "status entry indicates the memory size of each of said tiles after compression" and that "a full size indicating a non-compressed tile." Even if taken as a whole, Bhargava does not teach limitation (d).

- 25    2.      Limitation (f) includes a new limitation of "retrieving said tiles from said memory whereby said status entry indicating memory size is used to determine whether said tiles need to

be decompressed at time of retrieval.” There is no teaching in Bhargava or Jung on this limitation. Limitation (f) also serves to further distinguish the “tile format table” from the alleged table (FIG. 13A, 14) in Bhargava. Bhargava does not teach that entries in the table store are used to determine whether an individual tile is compressed when it is retrieved.

5           Jung has no mention of such limitation as well. Thus, even in combined, they do not teach all the limitations of the present invention and do not suggest such modifications to be made.

For these reasons, Applicant submits that Bhargava and Jung, either alone or in any combination, do not suggest or teach all the limitations of claim 1. As such, a requirement for  
10       *prima facie* obviousness is not met. Thus Applicant requests the 103(a) rejection on claim 1 be withdrawn.

As claims 2-4 depend from claim 1, these claims are in a condition for allowance as well. Their rejection based upon 35 U.S.C. 103(a) has been overcome.

15       Claims 5-11

The Examiner rejected claim 5 with the same rationale set forth in the rejection of claim  
1. As Applicant has overcome the rejection of claim 1, claim 5, presented here with the same amendments as claim 1, should be allowed by the same rationale. As claims 6-11 depend from claim 5, these claims are in a condition for allowance as well. Their rejection based upon 35  
20       U.S.C. 103(a) has been overcome.

**CONCLUSION**

The Examiner has rejected claims 1-11 and objected to claims 9 and 13. The Examiner  
5 has also objected to the submission of drawing. In reply, Applicant has amended the claims and replied to the 103(a) rejection on claims 1-11. Applicant is submitting an amended Fig. 1 to overcome the objection to the drawing. Applicant asserts that the present application is in a condition for allowance.

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Respectfully submitted,

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